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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/826,519	04/03/2001	Michael A. Innis	1565.006	2840

7590 08/07/2002
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EXAMINER

EPPS, JANET L

ART UNIT	PAPER NUMBER
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1635

DATE MAILED: 08/07/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action

Application No.

09/826,519

Applicant(s)

INNIS ET AL.

Examiner

Janet L Epps, Ph.D.

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--Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 16 July 2002 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

- a) ☐ The period for reply expires _____ months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection. ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☒ A Notice of Appeal was filed on 16 July 2002. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☐ The proposed amendment(s) will not be entered because:
- (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);
- (b) ☐ they raise the issue of new matter (see Note below);
- (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____

3. ☐ Applicant's reply has overcome the following rejection(s): _____.
4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☐ The a) ☐ affidavit, b) ☐ exhibit, or c) ☐ request for reconsideration has been considered but does NOT place the application in condition for allowance because: _____.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☒ For purposes of Appeal, the proposed amendment(s) a) ☐ will not be entered or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: _____.

Claim(s) objected to: _____.

Claim(s) rejected: 1-7, for the reasons of record, see attached note.

Claim(s) withdrawn from consideration: _____.

8. ☐ The proposed drawing correction filed on _____ is a) ☐ approved or b) ☐ disapproved by the Examiner.
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____.
10. ☒ Other: See Continuation Sheet

Continuation of 10. Other: Applicant's submission of an IDS 7-16-2002 is improper since it is not accompanied by the required statement under 37 CFR § 1.97(e), and has therefore not been considered.

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DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-7 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Lamond et al., Kandimalla et al., and Baracchini et al., and further in view of Rösch et al.

Applicant's arguments filed 7-16-2002 have been fully considered but they are not persuasive. Applicants traverse the instant rejection on the grounds that the cited references do not provide motivation for combination, nor any guidance as to how they could or should be combined. However, contrary to Applicant's assertions, one of skill in the art would have been motivated to make a chimeric oligonucleotide having the structure 5'-W-X1-Y-X2-Z-3', wherein W, X1, Y, X2, and Z have been defined in the instant claims, since Kandimalla et al. have taught to make chimeric oligonucleotides containing 2'-O-alkyl ribonucleotides and Ma et al., have taught that using phosphorothioate linkages in oligonucleotides increases cellular uptake and nuclease protection of said oligonucleotides. In addition, one of ordinary skill in the art would have been motivated to make and use a blocking group to reduce nuclease activity at the 3' end of the oligonucleotide since Ma et al. have taught that the addition of a 3' acridine group on synthetic oligonucleotides prevents nuclease degradation. Moreover, Lamond et al. provide motivation for incorporating 2'-O-methyl ribonucleotides into oligonucleotides since it teaches that oligonucleotides comprising these modifications possess increased resistance to RNA and DNA specific nucleases.

Furthermore, Applicant's specification does not provide any evidence of unexpected results indicating that their chimeric oligonucleotides according to the formula recited in the

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instant claims would necessarily possess enhanced “antisense” properties over that described for the antisense oligonucleotides of Barachini et al. in the same cellular environment. As stated in the prior Office action (bridging paragraph of pages 7-8), the ribonucleotide range of seven to twelve in X1 and X2 and the deoxyribonucleotide range of five to twelve in Y does not appear to impart any benefit or advantage other than the expected properties taught in the prior art, namely that such modifications are often preferred over native forms because of desirable properties such as, for example, enhanced cellular uptake, enhanced affinity for nucleic acid target and increased stability in the presence of nucleases (see Barachini et al. col. 6).

Applicants also traverse on the grounds that Rosch et al. would not motivate one to prepare any kind of back-bone modified oligonucleotide, particularly one containing phosphorothioate linkages. However, contrary to Applicant’s assertions Rosch et al. clearly disclose a chimeric oligonucleotide comprising both a 5’-5’ linkage and phosphorothioate linkages (col. 20, lines 15-20).

Conclusion

2. Claim 8 is free of the prior art. The prior art does not teach or suggest the chimeric oligonucleotide recited in claim 8. Although the prior art generically discloses the benefits of synthesizing oligonucleotides comprising the modifications according to the present invention, the prior art does not teach oligonucleotides comprising the sequence according to SEQ ID NO: 9 and 10 and further comprising said modifications.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janet L Epps whose telephone number is 703-308-8883. The examiner can normally be reached on M-T, Thurs-Friday 8:30AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John LeGuyader can be reached on (703)-308-0447. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3014 for regular communications and 703-746-5143 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

Janet L Epps-Ford
Examiner
Art Unit 1635

JLE
August 5, 2002



SEAN MCGARRY
PRIMARY EXAMINER
1635